

Book Review

CONGENITAL MALFORMATIONS OF THE BRAIN

Margaret G. Norman, Barbara C. McGillivray,
Dagmar K. Kalousek, Alan Hill, and
Kenneth J. Poskitt, Oxford University Press,
New York, 1995, 452 pp.

This book is a timely addition to the literature of pediatric neuropathology that correlates the embryological, clinical, genetic, and radiological aspects of congenital malformations of the central nervous system (CNS). The senior author, Margaret Norman, is a distinguished authority on these disorders, and with her coauthors has assembled an extremely valuable edition. Twenty-one chapters include an Introduction; Embryology of the Central Nervous System; Causes of Malformations; four chapters on neural tube defects; Abnormalities of the Cerebral Hemispheres; Holoprosencephaly; two chapters on neuronal migration disorders; Crossing the Midline (corpus callosum defects); Hydrocephalus; Abnormalities of the Spinal Cord, Brainstem, and Cerebellum; Abnormalities of the Skull, Meninges, Choroid Plexus, and Blood Vessels; Hamartoma; Miscellaneous; Antenatal and Perinatal Destructive Lesions (Disruptions); Perinatal Hemorrhagic and Hypoxic-ischemic Lesions; Degenerations; Examination of the Central Nervous System; and an Appendix. In addition to the five authors, Laurence Becker wrote the chapter Causes of Malformation, Doug Cochrane the chapter on Chiari II malformation, and Maximilian Muenke the chapter on holoprosencephaly. Much emphasis is given to neural tube defects, including the current understanding of the closure of the neural tube in a progressive sequence of five closure sites. Muenke's chapter on holoprosencephaly is detailed and scholarly, including a list of chromosomal anomalies associated with holoprosencephaly, as well as a table of single-gene defects that determine holoprosencephaly and its relationship to teratogens and associations.

The uniqueness of individual malformations, particularly those involving the CNS, is not only confusing,

but intimidating to the uninitiated. This text approaches each malformation in its traditional morphologic/pathologic divisions and describes the embryology, causes, pathogenesis, genetics, and heterogeneity within malformations such that concepts can be easily understood and appreciated. Clinical and state-of-the-art radiological aspects, as well as magnetic resonance imaging, are included.

This volume is well-written, has excellent illustrations, line drawings, and tables, and includes a complete list of references as well as the most recent literature. Included in the chapter on miscellaneous disorders is multiple pregnancy with anomalies of monozygotic twinning and fetal dyskinesia deformation sequence. The quotation from Hibbert, "He [Titus Livius] wrote of Romulus and Remus, twin sons of Rhea Silvia . . . Her babies had been left to die in a bucket by the waters of the flooded Tiber and had been saved by a she-wolf which had offered them her teats to suck," would appear to be erroneous in light of the fact that had Romulus and Remus been suckled by a she-wolf, they would not have survived. Rather, according to Lewis Barness who has researched wolf's milk, the high protein content would have caused the death of the twins. More likely, they survived by having been kept warm by the wolf.

Except for R.L. Friede (*Developmental Neuropathology*, 2nd edition, Berlin, Springer-Verlag, 1989), there is no other text that so clearly defines, illustrates, and brings into perspective the intricacies and complex pathological details of central nervous system malformations.

This volume should be a welcome addition to the libraries of general pathologists and neuropathologists, embryologists, geneticists, pediatricians, and pediatric radiologists.

Enid Gilbert-Barness

Professor of Pathology and Pediatrics
Department of Pathology
University of South Florida
Tampa General Hospital
Tampa, Florida